

REMARKS

Description of Amendments

Without prejudice, applicants have used this reply as an opportunity to revise the claimed invention to more clearly set forth the subject matter which the applicants regard as their invention. Specifically, claims 1 and 15 have been amended to indicate that each contact has first and second free ends for making contact with both a circuit board and a plug, and that the contact is secured to the housing at a point between the two ends. Support for this many can be found, for example, on page 6, line 20 through page 7, line 19. Additionally, new claims 27 through 30 have been added. These claims set forth subject matter found in original claims 11 through 14, respectively. Finally, claims 16 through 23 have been withdrawn for the reasons indicated below.

Rejections of Formality

The examiner rejected claims 4- 10 and 16 - 23 under 35 U.S.C. §112, first paragraph, stating that the disclosure was not enabling. Specifically, the examiner stated that subject matter regarding the technical specifications of "RJ-xx series" connectors is critical or essential to the practice of the invention but is not enabled by the disclosure. Although the applicants have incorporated the subject matter by reference in the application, the examiner found that such an incorporation is improper for such essential matter. The examiner therefore indicated that limitations drawn to RJ standards would not be given any weight.

In response, applicants submit that the examiner's rejection may be overcome by including the referenced RJ-xx standard in the application, perhaps as an appendix.

Applicants will endeavor to amend the application with this reference. In the meantime, applicants respectfully request that claims 16-23 be withdrawn from consideration until such an amendment is made, and that independent claims 1 and 15 and their dependent claims be considered since they does not rely on the RJ standard for patentability.

Prior Art Rejections

Examiner rejected claims 1 and 13 under 35 U.S.C. §102 as being anticipated Oliphant *et al.*, U.S. Patent No. 6,102,714 *et al.* ("Oliphant *et al.*"). Additionally, the examiner rejected claims 4- 12, and 16 -23 under 35 U.S.C. §103 as being unpatentable over Oliphant *et al.*. In response, applicants submit that the claimed invention, as amended, is patentably distinct over Oliphant *et al.*.

Claimed Invention

The claimed invention is directed to a modular jack assembly. The assembly comprises a dielectric housing having a front face and a rear face. The front face defines at least one receptacle adapted for receiving a mating plug and the rear face defines a transverse slot for receiving an edge of a circuit board. The assembly also includes a plurality of contacts disposed in the housing. Each contact has a first free end and a second free end and is secured to the housing at a point between the free ends. Each contact also has a plug engaging portion and a connection portion. The plug engaging portion of each contact extends forward in the receptacle from the point to the first free end such that the plug

engaging portion electrically connects with a mating plug when the mating plug is received within the receptacle. The connection portion of each contact extends from the point into the slot toward the second free end such that the connection portion contacts the circuit board when the housing is mounted to a circuit board.

The claimed invention offers a number of advantages over prior art connectors. For example, an electrical connection between the plug and the circuit board is made using a single contact, thereby eliminating intermediate circuitry and simplifying the modular jack assembly and its connection to the circuit board. Furthermore, the ends of each contact are free and used to make contact with both the circuit board and the plug. It is generally preferable to make contact with a free end of a cantilevered portion of a contact since such a configuration lends itself to a high degree of compliance while still providing a relatively high degree of normal force and, thus, reliability. Therefore, the claimed invention provides for a compact, simplified connector having excellent electrical performance while remaining compliant.

Oliphant *et al.*

Oliphant *et al.* is directed to electrical coupling system, in particular, a jack which pops out of the side of a computer for connection to a plug such as an RJ-type plug. The jack includes a slide plate having an aperture extending therethrough and a channel communicating with the aperture. The aperture is configured to receive the media plug and the channel is configured to receive a circuit board of the computer. Mounted on the slide plate so as to be positioned over the channel is a pinblock. The pinblock has a plurality of

elongated slots formed therein. Disposed within each of the elongated slots is a substantially S-shaped pin. Each pin has a second free end which is mounted in the pin block. From the pinblock, the pin extends downwardly within the channel to a lead end which is freely disposed within the aperture of the slide plate. This configuration allows the lead end to contact the media plug while the portion of the pin in the channel contacts the printed circuit board in the channel. Therefore, the S-shaped pin is secured to the housing in a pinblock at one end, contacts the printed circuit board at an intermediate portion, and contacts the media plug at its lead end.

Argument

A. Oliphant *et al.* Does Not Anticipate the Claimed Invention

Oliphant *et al.* Does Not Disclose to a Connector Having a Contact with Two Free Ends

Oliphant *et al.* does not disclose to a connector having a contact with two free ends in which one end makes contact with a plug and the other end makes contact with a circuit board in a card-edge receiving slot. Rather, Oliphant *et al.* discloses a connector having a contact in which one end is *anchored* to the housing in a pinblock, while the other end extends out into a channel to connect with a printed circuit board and then into a receptacle to connect with a plug. Therefore, the contact in the Oliphant *et al.* connector only uses one free end to make electrical contact—the other end is used to anchor the contact.

Accordingly, Oliphant *et al.* does not realize the advantages of the claimed invention particularly with respect to the enhanced compliance associated with having the free ends of

each contact make contact with both the media plug and the printed circuit board.

Furthermore, Oliphant *et al.* does not have independent connection points between the circuit board and the plug. That is, in the claimed invention, the contact is secured to the housing at a point between its two free ends so forces encountered in making one connection are not transferred to the other connection. Oliphant *et al.*, on the other hand, uses the same cantievered section of the contact to electrically connect with both the circuit board and the media plug. This would seem to introduce a certain amount of interdependence upon the two connections, allowing forces of one connection to be translated to the other connection. Generally, such interdependence is undesirable. Therefore, applicants submit that Oliphant does not anticipate the claimed invention and respectfully requests that the rejection be withdrawn and the claims allowed.

B. Oliphant *et al.* Does Not Render the Claimed Invention Obvious

**There Is No Motivation to Modify the Connector of
Oliphant *et al.* in Accordance with the Claimed Invention
since Doing So Would Undermine the Principal of
Operation of the Oliphant *et al.* Connector**

There is no motivation to modify the Oliphant *et al.* connector such that its contacts have two free ends for making electrical contact with both the plug and the circuit board in the card-edge receiving slot. *To the contrary*, modifying the Oliphant *et al.* connector such that both ends are free for making contact with the plug and the printed circuit board would drastically alter its configuration. It is well established that there can be no motivation to modify a reference if the modification would destroy the reference's principal of operation. Here, Oliphant *et al.* dedicates a great deal of description within the specification (e.g., col. 7, l. 51 through col. 8, l. 55) and in the drawings (Figures 5, 6, 9, 10, and 11) to the

Application No: 09/678,516
Attorney Docket No: 17499
Page 14

configuration of the contacts (or pins) in which one end of the pins is secured to the housing in a pinblock. Modifying the Oliphant *et al.* connector in accordance with the claimed invention would render this description useless. Furthermore, it is not obvious, by any stretch, how the Oliphant *et al.* connector could be modified to accommodate such a configuration. Therefore, since modifying Oliphant *et al.* in accordance with the claimed invention would drastically alter its configuration and destroy its principal of operation, there can be no motivation to do so. Accordingly, the examiner should withdraw the rejection and the allow the claims.

In light of the above remarks, an early allowance of the claims is earnestly solicited.

Thank you.

Respectfully submitted,



Stephen J. Driscoll
Registration No. 37,564
Attorney for Applicant
The Whitaker Corporation
4550 New Linden Hill Road
Suite 150
Wilmington, DE 19808
Telephone: (302) 633-2763
Facsimile: (302) 633-2776